【9】①

As people grow older, they frequently say that **time seems to pass more quickly** than when they were younger. There are several hypotheses about this. **One** is that our **perception of** time is nonlinear and is based on the amount of time we've already lived. A year in the life of a four-year-old represents a larger proportion of the time she's already been alive than it does for a forty-year-old. Experiments suggest that the formula for calculating subjective time is a power function*, and the equation states that the passing of a year should seem twice as long for a ten-year-old than for a forty-year-old. You may recall trying to be (1)still for an entire minute as a child, and now a minute goes by very quickly.

【9】②

Another factor is that after the age of thirty, **our reaction time**, **cognitive processing speed**, and **metabolic rate* slow down — the actual speed of neural transmission* slows**. This leaves the impression that the world is racing by, relative to our slowed-down thought processes.

【9】③

The way we choose to fill our time naturally changes across the life span **as well**. When we're **young**, we are driven by **novelty** and motivated to learn and experience **new things**. (2)**Our teens** and twenties can be seen as a time when we want to learn **as much** about ourselves and the world **as possible**, so that we can come to know, out of an infinity of possibilities, what we like and how we'd like to spend our time. Am I someone who likes parachuting? Martial arts? Modern jazz? As we get older and approach **our fifties and sixties**, most of us place a higher [A] on actually doing **the things we already know we like** rather than trying to discover new things we like. (Individuals vary tremendously of course; some older people are more interested in new experiences than others.)

【9】④－1

These different views of how we want to spend time are partly (3)fueled by **how much time we feel we have left**. | When time is perceived as (あ), the goals that become most highly prioritized are those that are preparatory, **focused on** gathering information, **on** experiencing **novelty**, and **on** expanding one's breadth of knowledge.

| When time is perceived as (い), the highest-priority goals will be those that can be realized in the **short-term** and that provide emotional meaning, such as spending time with family and friends. And although it's well documented that older people tend to have smaller social networks and reduced interests, and are less drawn to novelty than younger people, **the older people are just as happy as the younger ones** — they've found what they like and they spend their time doing it.

【9】④－2

Research shows clearly that this is not due to aging per se* but to **a sense** of time running out. | Tell a twenty-year-old that he has only five years left to live and he tends to become more like a seventy-five-year-old — not particularly interested in new experiences, instead favoring spending time with family and friends and taking time for familiar pleasures. It turns out that [B]. | There's a certain logic to this based on risk assessment: If you have a limited number of meals left, for example, why would you order a completely new dish you've never (う) before, (4)running the risk that you'll hate it, when you can order something you know you like? Indeed, prisoners on death row* tend to ask for **familiar foods** for their last meals: pizza, fried chicken, and burgers, not crêpes suzette* or cassoulet de canard*. (At least American prisoners. There are no data on what French prisoners (え). France abolished the death penalty in 1981.)

【9】⑤－1

A related difference in **time perception** is driven by differences in **attention and emotional memory**. | Older adults show a special preference for emotionally **positive memories** over emotionally negative memories, while younger adults show the opposite. This makes sense because it has long been known that younger people find (a) information more compelling* and memorable than the (b). Cognitive scientists have suggested that we tend to learn more from (c) information than from (d) — one obvious case is that (e) information often simply confirms what we already know, whereas negative information reveals to us areas of ignorance.

【9】⑤−2

In this sense, the drive for negative information in youth parallels **the thirst for knowledge** that wanes* as we age. (5)This age-related positivity bias is reflected in brain scans: Older adults activate the amygdala* only for positive information, whereas younger adults activate it for both positive and negative information.

【9】⑥

One way to stave off* the effects of aging is **to stay mentally active**, **to perform tasks you've never done before**. This sends blood to parts of your brain that wouldn't otherwise get it — the trick is to get the blood flowing in every nook and cranny*. People with Alzheimer's disease show deposits in the brain of amyloids*, proteins that erroneously interact, forming small, fibrous microfilaments* in the brain. People who were more cognitively active in their lives have less amyloid in their brains, suggesting that mental activity protects against Alzheimer's. (6)And it's not just being active and learning new things in your seventies and eighties that counts — it's **a lifetime pattern of** learning and exercising the brain. "We tend to focus on what people do at seventy-five in terms of dementia*," says William Jagust, a neuroscientist at UC Berkeley. "But there is more evidence that what you do **in your life, at forty or fifty, is probably more**